

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

B159853935

FACILITY: FLINT WATER POLLUTION CONTROL FACILITY		SRN / ID: B1598
LOCATION: G-4652 BEECHER RD, FLINT		DISTRICT: Lansing
CITY: FLINT		COUNTY: GENESEE
CONTACT: John Florshinger , Plant Foreman		ACTIVITY DATE: 06/17/2020
STAFF: Daniel McGeen	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced, scheduled inspection of facility.		
RESOLVED COMPLAINTS:		

On 6/17/2020, the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) conducted an unannounced, scheduled inspection of Flint Water Pollution Control (WPC).

Environmental contacts:

- Don Lewis, Operations Supervisor; 810-766-7210; dlewis@cityofflint.com
- Chad Antle, Owner; BioWorks Energy; chad.antle@bioworksenergy.com

Facility description:

Flint WPC is the wastewater treatment plant for all of the residences in Flint, as well as for numerous commercial and industrial facilities.

Emission units:

Emission unit*	Exemption rule	Federal regulations, if applicable	Compliance status
Original internal combustion engine (ICE) generator for combusting digester gas, rated at <10 million Btu/hour heat input capacity; north ICE	285(g)	40 CFR Part 60, Subpart JJJJ	Not operating
Newer ICE generator for combusting digester gas, rated at <10 million Btu/hour heat input capacity; south ICE	285(2)(g)	40 CFR Part 60, Subpart JJJJ	Compliance
Flare for combusting digester gas	282(g)	NA	Compliance

* An *emission unit* is any part of a stationary source that emits or has the potential to emit an air contaminant.

Regulatory overview:

This facility is considered to be a true minor source, rather than a major source of air emissions. A *major source* has the potential to emit (PTE) of 100 tons per year (TPY) or more, of one of the criteria pollutants. *Criteria pollutants* are those for which a National Ambient Air Quality Standard exists, and include carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide, volatile organic compounds (VOCs), lead, particulate matter smaller than 10 microns, and particulate matter smaller than 2.5 microns.

It is also considered a minor, or *area source*, for Hazardous Air Pollutants (HAPs), because it is not known to have a PTE of 10 TPY or more for a single HAP, nor to have a PTE of 25 TPY or more for combined HAPs.

The facility has no active permits to install (PTIs). The wastewater and sewage treatment equipment currently operating at the facility is considered to meet relevant exemption criteria from the requirement of Michigan Air Pollution Control Rule 201 to obtain a permit to install. The relevant exemptions are Rule 285(g) and Rule 285(2)(g) for the ICEs, and Rule 282(g) for the flare.

My previous inspection report of this facility, in 2019, stated incorrectly that the permit exemption applicable to the digesters was Rule 285(m) or the newer Rule 285(2)(m), for equipment installed on or after 12/20/2016. This was in error, as 285(m) and the current 285(2)(m) do not apply to biodigesters. The appropriate exemptions are Rule 285(g) for internal combustion engines less than 10 million

Btu/hour installed prior to 12/20/2016, Rules 285(2)(g), for ICEs less than 10 million Btu/hr installed on or after 12/20/2016, and Rule 282(g) for the flare. This is because the digester gas is routed to the ICEs and flare for combustion.

Voided permits to install for this facility:

Voided PTI No.	Process equipment	Reason voided	Date voided
228-73	2 sludge incinerators with 6 hearths, afterburner and scrubber control, and equipment upgrade control	PTI 228-73A subsequently was issued for these processes.	12/17/2004
228-73A	4 six-hearth sludge incinerators, CO limit applied for to avoid being subject to Title V of Clean Air Act Amendments	Incinerators taken out of service.	4/14/2016
1011-80	Vaportek odor controller	Unknown*	6/9/1981
659-81	Quad odor control system for Zimpro system	Zimpro and incinerators shut down permanently	9/27/2016
660-81	Odor control vent system for Zimpro system	Zimpro and incinerators shut down permanently	9/27/2016

*Vaportek permit-related records were evidently sent to the State of Michigan Record Center some years ago, after the permit was voided in 1981. The records were eventually destroyed, according to the entry in the AQD Permit Cards database. The State of Michigan has a record retention schedule for management of records at the Record Center, which can ultimately include destruction.

The facility has two Internal Combustion Engine (ICE) generator which are subject to 40 CFR Part 60, Subpart JJJJ, *Standards for Performance for Stationary Spark Ignition Internal Combustion Engines*.

Fee status:

This facility is not considered fee-subject. Ordinarily, being subject to a New Source Performance Standard (NSPS) would make a facility be considered fee-subject, but where ICEs alone are the only reason a facility would be subject, AQD is not collecting fees.

This facility is not required to report to the Michigan Air Emissions Reporting System. AQD Operational Memorandum No. 13 requires reporting in MAERS if emissions thresholds have been exceeded, but Flint WPC is not known to have exceeded these thresholds.

Location:

The facility is located in a mixed residential and commercial area, on the south bank of the Flint River. To the immediate north and northwest are some residential areas. The closest single family house is about 1,100 feet from the north digester, as measured by me in Google Maps, and only a couple hundred feet from the perimeter of the Flint WPC site. To the immediate northeast are large cemeteries. To the immediate south are residential areas. To the immediate east is the Genesee County Drain Commission facility. The nearest apartments are about 1,600 feet to the southeast of the south digester. The apartment complex is backed up against the eastern perimeter of the site. To the immediate west is some undeveloped land, which is part of the Flint WPC site. To the southwest are some residences, including apartment buildings.

History:

Four sewage sludge incinerators operated at the site for decades. The last of these units to run ceased operations on 3/10/2016, due to new regulatory constraints. The permits were subsequently voided, as noted in the table of voided permits, above. By ceasing operations of the incinerators, the facility did not become subject to the regulatory requirements of 40 CFR Part 60, Subpart MMM, *Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units*, which had regulatory requirements that would have begun on 3/30/2016.

Around May of 2011, Flint WPC installed a bio digester with a flare, through a Swedish company, BioWorks Energy. The digester and flare are owned by the City. The site initially installed one internal combustion engine (ICE) to produce electricity, using the gas from the digester as fuel. The engine was purchased by BioWorks, who will maintain ownership yet operate the engine on the Flint WPC property. The engine is considered exempt under Rule 285(g), due to being less than 10 million

Btu/hr rated heat input capacity. A second ICE was subsequently installed at the site, and is subject to Rule 285(2)(g), which replaced Rule 285(g) on 12/20/2016. The exemption criteria is the same as the earlier Rule 285(g).

Recent complaints:

The history of odor complaints at this facility since 2007 is as follows:

- 2008: 1 complaint.
- 2015: 1 complaint.
- 2016: 1 complaint.
- 2017: 18 complaints.
- 2018: 28 complaints.
- 2019: 0 complaints.
- 2020: as of the date of today's inspection, 6/17/2020, there had been 3 complaints.

Recent odor issues:

Following the May 2011 installation of the first bio digester onsite, there had only been occasional odor complaints, in 2015 and 2016. In 2017, however, a series of odor complaints began, peaking in 2018, which had a yearly total of 28 odor complaints. Following complaint investigations, AQD cited a violation of Rule 901(b) for excessive odors, in February 2018, and again in August 2018. Changes at the plant were made including installation of a two stage odor control scrubber to replace a smaller scrubber, and construction of a second (south) digester to complement the original (north) digester onsite. Odor complaints were absent between 12/6/2018 to 2/3/2020.

On 1/31/2020, as self-reported by Flint WPC to MIWATERS, the permitting and reporting application managed by EGLE's Water Resources Division (WRD), a mixer for the digestate tank had broken loose, and ruptured the seal. This was said to have resulted in the release to the ground of 51,000 gallons of digested sludge. Flint WPC reported that they cleaned up the spill, although some of the material was said to have entered the Flint River.

On 2/3/2020, AQD had received an odor complaint of an ammonia smell, and investigated on 2/4/2020. The spill from 1/31 appeared to have been cleaned up, but the digestate tank was still undergoing repairs, and the two sludge digesters could not be used to treat sludge, without a tank for the digestate to be sent to. Odors detected offsite by me that day appeared to be associated with the undigested sludge being sent directly to the dewatering building, to be dewatered, prior to being sent offsite to be landfilled.

5/4/2020: While in the vicinity, AQD checked for offsite odors. The only Flint WPC odor detected was a brief distinct and definite odor of sewage on Flushing Road, at the intersection with Mill Road. This odor was determined to be insufficient to constitute unreasonable interference with the comfortable enjoyment of life and property.

5/13/2020: In response to a 5/12 odor complaint, AQD contacted the plant on 5/12, and conducted an odor evaluation on 5/13. I encountered a barely detectable sulfurous odor at the intersection of Linden and Beecher Roads, which was determined insufficient to constitute unreasonable interference with the comfortable enjoyment of life and property.

Recent stack testing:

On 6/15/2016, stack testing of the older generator for NO_x, CO, and VOC was observed by AQD's Nathan Hude. Although the unit is considered exempt from needing a permit to install under Rule 285 (g), it is subject to 40 CFR Part 60, Subpart JJJJ, *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*. The testing was required by Section 60.4243(a)(2)(ii), which applies to non-certified spark ignition internal combustion engines greater than or equal to 100 horsepower (HP) and less than or equal to 500 HP. This was a one-time test.

Results indicated compliance for NO_x, CO, and VOC, as follows:

Emission unit	NOx ppm @ 15% O2	CO ppm @ 15% O2	VOC ppm @ 15% O2
ENG-01 (existing ICE)	119	143	2.8
Regulatory limit	150	610	80
Compliance?	Yes	Yes	Yes

A fuel sample of the digester gas was taken the day before the testing, and the sulfur content of the gas was reported to be 50 ppm.

Stack testing for the newest ICE, ENG-02, was done on 4/12/2018. This was also a one-time test. I was unable to attend, but AQD's Regina Hines from the Detroit Field Office witnessed the test. Results indicated compliance for NOx, CO, and VOC, as follows:

Emission unit	NOx ppm @ 15% O2	CO ppm @ 15% O2	VOC ppm @ 15% O2
ENG-02 (new ICE)	128.5	215.1	5.4
Regulatory limit	150	610	80
Compliance?	Yes	Yes	Yes

Safety attire required:

Safety glasses with side shields are suggested by AQD. Hearing protection is recommended by Flint WPC and by AQD, if going inside the building where the filter presses are used to dewater sludge.

Note: Due to the COVID-19 pandemic, I was wearing a disposable paper mask, pursuant to EGLE guidelines.

Offsite odor evaluation:

Prior to arrival, I checked for odors in the surrounding area; please see attached odor evaluation form, map, and 24-hour summary of weather data for today, 6/17/2020. Weather conditions were sunny, humid, and 80 degrees F, with winds out of the east southeast at 10 miles per hour.

Note: An offsite odor evaluation was also conducted following the inspection, and is documented at the end of this report.

Summary of offsite odors detected, prior to arrival:

- 11:49 AM: Level 2 sewage smell, briefly, at intersection of Linden and Flushing Roads.
- 11:55 AM: Level 2 sewage odor on Linden Road, west and slightly south of Flint WPC's former incinerator building.

The odors described above were not determined to be sufficient to constitute a violation of Rule 901 (b), which prohibits unreasonable interference with the comfortable enjoyment of life and property.

The 0 to 5 odor scale used by AQD is as follows:

Level	Description
0	Non-detect
1	Just barely detectable
2	Distinct and definite
3	Distinct and definite objectionable odor
4	Odor strong enough to cause a person attempt to avoid it completely
5	Odor so strong as to be overpowering and intolerable for any length of time

Arrival:

During the COVID-19 pandemic, EGLE guidance to staff has been to pre-arrange inspections with regulated facilities, except where it is in the interest of protecting the public to not prearrange the visit. In this case, the inspection was conducted unannounced, which I felt was in the best interests of the public, given that AQD had received 3 odor complaints this spring. EGLE guidance is also to wear a mask, when conducting any field work. I was wearing a disposable paper mask at this time.

I have been told that Flint WPC procedure is to have visitors call prior to entering the site, during the pandemic. I arrived at approximately 12 noon at the Flint WPC site. I drove to the administration building's parking lot, and stayed in the car while calling Mr. Don Lewis, Operations Supervisor, at 12:01 PM. I left a voice mail, then called the Flint WPC number to reach a foreman. I was told they would send someone out to meet me. I was soon met by Mr. John Florshinger, Foreman.

Flint WPC was dewatering treated sludge, at this time, I was told, which can be associated with odors. Also, I was advised, Youngs Environmental was taking a load of septic waste to the County Drain Commission site immediately east of Flint WPC right now, which could generate odors that would not be of Flint WPC's creation.

Inspection:

Flint WPC is the wastewater treatment plant for all of the residences in Flint, as well as for numerous commercial and industrial facilities. Flint WPC is sized to treat 50 million gallons of waste water per day, but with the decrease in Flint's population in recent decades, the plant only treats about 15 million gallons per day, I have been told. I have also been told the average is around 22 million gallons per day. Storm water from rainfall is said to be a higher percentage of overall waste water flow because they have less sanitary waste water.

It is my understanding that on its own, the present mix of sludge that Flint WPC receives from residences, businesses, and industries would not be sufficient to produce enough digester gas to make the digester(s) economically viable. Therefore, Flint WPC adds substrates to the digester. These substrates are said to be more biologically active and have more energy value than the sludge.

AQD has been advised that substrates they accept include grease from restaurant grease traps, and also soy, milk waste water, and powdered milk. Pickle waste has also been added as a substrate. Substrates are often brought into the site by tanker trucks. In recent months, they have been receiving spoiled food and milk products from commercial businesses, storing them onsite, and adding them to the digestion process. I have been told that they conduct bench scale tests with new substrates to determine the potential effects on the digester.

My understanding of the digestion process works as follows: undigested sludge and substrates are put into the digester, which is an anaerobic environment. Naturally occurring bacteria (acetogens and acetogens) break the wastes down into volatile fatty acids (VFAs), and bacteria called methanogens then convert the VFAs into methane gas. Digested sludge goes to the digestate tank for storage, while digester gas goes to the two ICEs, and/or the flare. The digested sludge is sent to the dewatering building to have a floccing agent added, and is run through filter belt presses, to remove water. The dewatered sludge is then sent to the loadout building, to be loaded into semi trailers, and taken offsite for disposal at a landfill.

My understanding is that methanogens in the digesters are naturally occurring bacteria, which feed on biological materials and produce methane gas. I have been advised that volatile fatty acid formation can lead to foul odors. Some of the odorous compounds which can be produced include sulfur compounds.

Primary tanks: Rule 285:

It is my understanding that in the primary tanks, incoming wastewater is kept, and solids settle out as sludge. These solids then go to the east sludge storage tank. I could not detect any primary wastewater tank odors. at this time

East sludge storage tank:

The east sludge storage tank is an existing tank with a geodisic dome. Sludge is pumped there, from the primary tanks, and stored. It is my understanding that substrates are added to the sludge in this

tank by truck, and by adding waste food items to a nearby "pickle pit." Sludge can go to either the existing (north) digester, or the new (south) digester, for treatment. With the two digesters both running, Mr. Florshinger advised me, the volume of sludge in the east sludge storage tank was currently very low, almost empty.

There were no visible emissions from the east sludge storage tank. I detected a distinct and definite odor like sour sludge. Mr. Florshinger showed me that a tanker truck was unloading substrate into the east sludge storage tank. This might be pushing air out of the east storage tank, or out of the tank on the truck, he advised. The tank was washed out afterwards, Please see attached photo No. 001. It is my understanding that the rinse water goes into a pit which leads to a pump station, that in turn routes the rinse water to the head of the plant, where it is processed with other incoming wastewater.

For substrates, they are bringing in a lot of food waste, I was told, but they are not bringing septic waste into the site as substrates. A load of waste pickles had been brought in today by a pickle manufacturer, I was informed, and cellulose from shipping is sometimes brought in. Waste molasses taken in late last year was said to have been too strong of a substrate, and evidently upset the digesters.

The original carbon filter unit was made from a 55 gallon drum, and has been replaced with a new, larger 2-stage odor scrubber. I could not see any visible emissions from the scrubber exhaust.

I have previously been told that once per week, a sample is taken from the east sludge tank, and it is checked for pH, volatile fatty acids (VFAs), alkalinity, total solids, and volatile solids.

Existing (north) digester:

The existing digester was operating, with no visible emissions. I have been informed that its capacity is over one million gallons. It underwent an upset condition in 2017, as was described earlier in this report, but appears to be working normally now, as I understand it.

I've been informed in the past that this once had an internal floating roof (IFR), but that was replaced with a more fixed roof some years ago. The new roof has a limited range of movement, and a water seal. The roof has been painted black to absorb heat from the sun. There were no visible emissions coming from the north digester.

Odors from sludge which has been digested are only about 1/10 of the odors from undigested sludge, I have been told in the past, and the volume of digested sludge is reduced about 30% from the undigested state.

South digester (new unit):

The newsouth digester is operating. The start up is said to have been around March 2019. It has a capacity of over one million gallons, I was told. It has an internal floating roof, which is expected to provide superior odor control compared with the roof of the existing (north) digester. The roof has been painted black to absorb heat from the sun. There were no visible emissions from the south digester.

Digestate tank:

The post-digester sludge goes into the digestate tank, and then to the filter press building for dewatering. The sludge contains non-organics or inorganics, at this point, as I understand it. The digestate tank has a soft dome on top, which expands as the amount of gas in the tank increases. There were no visible emissions from the digestate tank.

Mr. Floreshinger showed me the areas where they made repairs and upgrades following rupture of a seal this spring. It is my understanding that a mixer or agitator had broken free from its base, and torn a seal on the side of the tank, releasing digestate onto the ground. When they repaired the tank, they replaced the original carbon steel plate with a stainless steel plate, with gussets for reinforcement. There was a similar mixer on the other side of the tank, with a carbon steel plate, I was told, and they likewise replaced it with a stainless steel, gusseted plate. Mr. Florshinger showed me the removed carbon steel plates; please see photo No. 002.

I was shown the new, gusseted stainless steel plates, each of which had a shock mount to support the electric motor, pulley, and shaft of their respective mixers. Please see attached photos Nos. 003 and 004.

Original (north) ICE generator; Rule 285(g); 40 CFR Part 60, Subpart JJJJ:

The original, or north, ICE generator was not running on the day of the inspection. It is considered to meet the criteria for the Rule 285(g) exemption for internal combustion engines with rated heat input capacity of less than 10 million Btu/hour. This is a six-cylinder unit, rated at 167 kilowatts (kW), and rated at less than 500 horsepower (hp). It is my understanding that both ICE generators are run if enough gas is available from the digesters.

New (south) ICE generator; Rule 285(2)(g); 40 CFR Part 60, Subpart JJJJ:

The south ICE generator was running. This unit is subject to the revised Rule 285(2)(g) exemption, which became effective on of 12/20/2016. The exemption criteria is the same as for the prior version of the exemption, Rule 285(g). This unit is larger, being a twelve-cylinder engine, rated at 360 kW. It is still less than 10 million Btu/hour, qualifying for Rule 285(2)(g), It is rated at less than 500 hp. No visible emissions were seen from the ICE.

For both generators, the applicable requirement under Subpart JJJJ is Section 60.4243,(a)(2), the relevant portions of which read as follows:

§60.4243 What are my compliance requirements if I am an owner or operator of a stationary SI internal combustion engine?

(a) If you are an owner or operator of a stationary SI internal combustion engine that is manufactured after July 1, 2008, and must comply with the emission standards specified in §60.4233(a) through (c), you must comply by purchasing an engine certified to the emission standards in §60.4231(a) through (c), as applicable, for the same engine class and maximum engine power. In addition, you must meet one of the requirements specified in (a)(1) and (2) of this section.

~~(1) If you operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, you must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required if you are an owner or operator. You must also meet the requirements as specified in 40 CFR part 1068, subparts A through D, as they apply to you. If you adjust engine settings according to and consistent with the manufacturer's instructions, your stationary SI internal combustion engine will not be considered out of compliance.~~

(2) If you do not operate and maintain the certified stationary SI internal combustion engine and control device according to the manufacturer's emission-related written instructions, your engine will be considered a non-certified engine, and you must demonstrate compliance according to (a)(2)(i) through (iii) of this section, as appropriate.

~~(i) If you are an owner or operator of a stationary SI internal combustion engine less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions, but no performance testing is required if you are an owner or operator.~~

(ii) If you are an owner or operator of a stationary SI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup to demonstrate compliance.

~~(iii) If you are an owner or operator of a stationary SI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance.~~

Flare; Rule 282(g):

The flare was now running, although it had not been, when I first arrived onsite. There were no visible emissions of smoke. The wind had shifted to out of the northwest.

The flare is used to burn excess methane, when there is more methane than can be burned in the generator(s). It was installed prior to the 12/20/2016 revisions to AQD permit exemptions, and is therefore subject to Rule 282(g), rather than the revised Rule 282(2)(g) which became effective on 12/20/2016. The exemption criteria remain unchanged, however, and are stated below:

(g) Sour gas-burning equipment, if the actual emission of sulfur dioxide does not exceed 1 pound per hour.

Based on previous computations using the flare size and capability, the sulfur content of the fuel would have to be less than 180 ppm to maintain compliance with this exemption (using a fuel flow of 33,930 ft³/hr), AQD's Nathan Hude has observed in the past. In 2016 a sample of the digester gas had a sulfur content of less than 50 ppm, within the acceptable range.

On 9/17/2020, I emailed Mr. Chad Antle, and requested H₂S data on the digester gas going to the flare, if they had data from around the 6/17/2020 date of the inspection, and recent data, if the H₂S content of the gas has changed since then. On 9/26, Mr. ANtle emailed back, to say that he would try to get a sample during the coming week. The data will be evaluated upon receipt.

Filter press building:

The filter press building once housed the sludge incinerators. Now, post-digester sludge is dewatered there, by the addition of polymer, as well as the use of belts and rollers to squeeze out water. The material is then known as filter cake. The removed water is called filtrate, and goes back to the start of the plant.

There were no visible emissions from the filter press building or its exhaust stacks. I detected no odors outdoors, on the west side of the building, when winds were out of the east. Hearing protection should be worn, if one enters this building. Inside, there was a sharp smell, like ammonia, but odors were less than I have detected in the past here. I was told that sensors inside the dewatering building monitor ammonia and hydrogen sulfide in the air, one for each of the two filter presses.

Also inside the former incinerator building is what used to be the area for the now removed Zimpro process. This is where they operate their depackaging process. It is my understanding that it opens packages of spoiled or otherwise unsaleable food, with a centrifuge-like mechanism. The food waste is from commercial businesses, and includes sour milk, and frozen packaged meals. Flint WPC uses these as substrates, to provide food for the bacteria in the digesters. The leftover packaging waste is baled for disposal.

The loading hopper for food packages was at the left or east end of the room. Please see photo No. 005. An auger, or screw conveyor, takes the food packages to the right, to the depackager or "opener," please see photo No. 006. The opener, I was told, is a drum with paddles. The slurry of waste food goes to a feed line, while the shredded food packaging goes into a bin, below. The feed line goes to either the east sludge tank or to the south digester. The process was not running, at the moment. The odor of spoiled food in the room was sharp, but not overly strong, at this time.

Photo No. 007 shows the feed hopper and depackager in relation to one another. ~~Photo No. 008 shows the bin for baled packaging. Photo 009-8 shows the depackager at center, with the waste packaging bin underneath it. Photo no. 009-010 shows a stainless steel tank which stores the slurry prior to it being routed to the south digester or east sludge storage tank, as I understand it.~~

Loadout building:

In the loadout building, the dewatered sludge or filter cake is loaded into truck trailers in one of two cargo bays. It is then taken to a landfill, for disposal. There were no visible emissions from the truck loadout building. All the doors were closed. Winds were now out of the east, then out of the north. I could not detect an odor outside of the building.

Post-departure odor evaluation:

I left the site at 1:13 PM.

I drove to Huntington Circle Apartments, which is immediately to the southeast of Flint WPC. I drove slowly through the parking lot, with the windows down, but was not able to detect any odors at this

time. I then drove on Beecher to Hillside Drive, directly south of Flint WPC. I detected no odors on Hillside or Westerrace, as documented on the attached odor evaluation forms and map of route taken.

Conclusion:

No instances of noncompliance were identified at this time. Odors detected offsite today were found to be insufficient to constitute unreasonable interference with the comfortable enjoyment of life and property.



Image 1(001) : Truck washing after substrate delivery.



Image 2(002) : Carbon steel plates from digestate tank.



Image 3(003) : New stainless steel plate with gussets.

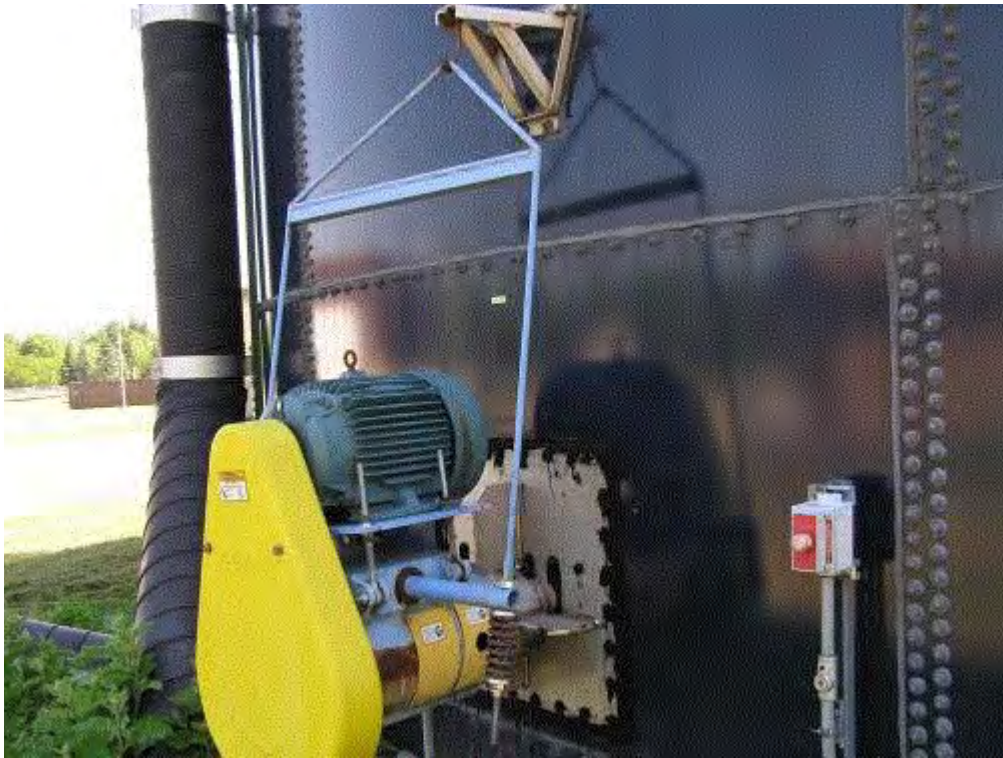


Image 4(004) : New shock mount for electric motor, pulley, and shaft of mixer.



Image 5(005) : Feed hopper and auger.



Image 6(006) : Depackager or opener.



Image 7(007) : Hopper at left, and depackager at center of photo.



Image 8(008) : Depackager at center, with bin for waste packaging underneath.

NAME Daniel A. Maen

DATE 2/26/2021

SUPERVISOR B.M.